

ABSTRACT

A micromachined device made of semiconductor material is formed by:
a semiconductor body; an intermediate layer set on top of the semiconductor body;
5 and a substrate, set on top of the intermediate layer. A cavity extends in the
intermediate layer and is delimited laterally by bottom fixed regions, at the top by the
substrate, and at the bottom by the semiconductor body. The bottom fixed regions
form fixed electrodes, which extend in the intermediate layer towards the inside of
the cavity. An oscillating element is formed in the substrate above the cavity and is
10 separated from top fixed regions through trenches, which extend throughout the
thickness of the substrate. The oscillating element is formed by an oscillating
platform set above the cavity, and by mobile electrodes, which extend towards the
top fixed regions in a staggered way with respect to the fixed electrodes. The fixed
electrodes and mobile electrodes are thus comb-fingered in plan view but formed on
15 different levels.